DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017452
Date Inspected: 12-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Jobsite

CWI Name:	See below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

On this date CALTRANS OSM Quality Assurance Inspector (QAI) Bert Madison was present at Yerba Buena Island in California between the times noted above for observations relative to the work being performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below.

1). OBG Field Splice 6W/7W Weld ID: E2, Face A (FCAW-G)
2). OBG Field Splice 5W/6W Weld ID: E2, Face A (SMAW UT repairs)
3). OBG Field Splice of Ventilation Access Insert Weld E1 PP10.5 E2S (QC Confirmation)
4). OBG Field Splice of Ventilation Access Insert Weld E1 PP10.5 E2S (SMAW R-1 Repair)

1). OBG Field Splice 6W/7W Weld ID: E1, Face A - (FCAW-G)
The QAI periodically observed AB/F approved welder Song Tao Huang (ID 3794) performing semi automatic welding per the Flux Cored Arc Welding (FCAW-G) process in the 3G (vertical) position of root and fill passes on weld ID: E2. The QAI observed QC Inspector John Pagliero was present to monitor the progress and verify that the welding parameters were within the limits established by the approved Welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-3042B-1. The QAI observed that the work at this location was in process for the duration of the shift and appeared to be in general compliance with contract documents.

2). OBG Field Splice 5W/6W Weld ID: E1, Face A
The QAI periodically observed AB/F approved welder Fred Kaddu (ID 2188) performing welding per the Shielded Metal Arc Welding (SMAW) process in the 3G (vertical) position of OBG Field Splice 5W/6W Weld ID: E1, to repair (1) one Ultrasonic Testing (UT) rejectable area. QC Inspector Jesse Cayabyab was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding

Procedure Specification (WPS) identified as ABF-WPS-D1.5-1000 Repair. The QAI observed that Mr. Kaddu completed welding of (1) one excavation at the following location: Weld E1 - Y = 170, Length = 80mm and Depth = 6mm. The QAI observed that the welding at this location was completed and work at this location appeared to be in general compliance with contract documents.

3). OBG Field Splice of Ventilation Access Insert Weld E1 PP10.5 E2S (QC UT Confirmation)
The QAI observed QC Inspector Steve McConnell performing UT to confirm the rejectable UT indication identified by the QAI on 10/11/10 at the OBG Field Splice of the Ventilation Access Insert Weld at E1 PP10.5 E2S. The QAI observed that Mr. McConnell utilized the UT Procedure identified as SE-UT-D1.5-CT-100 Rev.4 during the examination of the splice weld. The QC technician performed the required shear wave testing during the testing for weld soundness utilizing a .63 x .75 rectangular transducer. The UT examination was completed and the QC Mr. McConnell concurred with the QAI UT results that the indication was a Class A reject but with a less severe Acceptance / Rejection rating of +9. See Summary of Conversations. The QC inspector then laid out the depth and length of the indication for repair. While at this location with QC McConnell, AB/F Welding Foreman approached and Spoke to the QAI and QC Inspector. See Summary of Conversations.

4). OBG Field Splice of Ventilation Access Insert Weld E1 PP10.5 E2S (SMAW R-1 Repair)
The QAI periodically observed AB/F approved welder Darcel Jackson (ID 9677) performing grinding to excavate an R-1 repair located at Y = 1100mm. The QAI periodically observed QC Inspector Pat Swain performing Magnetic Particle Testing (MT) of the excavated UT repair areas prior to welding. The excavated area when approximately 11 mm in depth was observed by the QAI to contain an approximately 8mm long indication that appeared to be a slag inclusion. See photo below. The QAI also observed that the MT of the excavation was performed at several intervals and revealed that the indication although gradually reducing in length was not fully removed until an excavation depth of 18mm. The final excavation dimensions were as follows: Y = 1045, Length = 100mm, Width = 18mm and the depth = 19mm. The QAI observed that the performance and evaluation of the MT appeared to comply with the MT procedure identified as SE-MT-CT-D1.5-101 Rev. 4. The QAI periodically observed AB/F approved welder Darcel Jackson (ID 9677) performing repair welding of the excavated area (R-1) at E1 PP10.5 E2S per the Shielded Metal Arc Welding (SMAW) process. See photo below. QC Inspector Pat Swain was present to monitor the progress and verify that the welding parameters were within the limits established by the approved welding Procedure Specification (WPS) identified as ABF-WPS-D1.5-1001-Repair. The repair welding was completed at this location during the QA Inspectors shift and the work appeared to be in general compliance with contract documents.

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Summary of Conversations:

At the beginning of the QA Inspector's shift, the QAI was approached by Lead QC Inspector Bonafacio Daquinag who stated to the QAI that the OBG Field Splice at 5W/6W Welds E1 and E2 would be turned over to QA for verification testing on 10/13/10.

From item 3).

Prior the performance of the QC confirmation of the QAI identified UT rejectable indication in E1 PP10.5 E2S the QAI demonstrated to QC Mr. McConnell using the QA UT instrument that an Acceptance / Rejection rating of +3 could be obtained from one side of the weld and a +9 from the other side of the weld. When the QC performed scanning of the same area he stated that he could only obtain a rating of 11 or 12 from either side which is not a rejectable Acceptance / Rejection rating. During continued scanning by the QC Inspector, the QAI observed the QC inspectors UT instrument and observed a displayed rating of 7.4. The QC Inspector stated that it was probably not a valid rating because his transducer was partially on a portion of the weld cap. The QA Inspectors rating of +3 was obtained with approximately the same transducer placement. After continued scanning by the QC Inspector, he stated that he was able to obtain a Class A Rejectable rating of +9. At about this time the QAI and QC were approached by AB/F welding foreman Dan Ieraci who stated that he thought that the welding at this location (E1 PP10.5 E2S) was already bought off. QC Mr. McConnell stated that it was accepted by QC but not yet by QA. Mr. Ieraci then stated that "you guys are going to have to do this in a more timely manner. We can't be coming back to an area we've already moved away from." The QAI stated that the weld at this location had only been released to QA on 10-11-10. The QAI observed that Mr. Ieraci had turned and had walked away and had not waited to hear any response.

Other conversations on this date with Quality Control Inspectors were general in nature and pertained to locations of welding and QC activities.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammed Fatemi (916) 813 3677, who represents the Office of Structural Materials for your project.

Inspected By:	Madison,Bert	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer